

REMARKS

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of March 6, 2009 is respectfully requested.

By this Amendment, claim 9 has been amended and claims 10-12 have been cancelled. Thus, claims 9 and 13-16 are currently pending in the application. No new matter has been added by these amendments.

On pages 3-4 of the Office Action, the Examiner rejected claims 9, 10, 11, 13 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Solomon (US 3,182,901) in view of Takenaka et al. (US 5,816,134). On pages 5-6 of the Office Action, the Examiner rejected claims 9 and 16 under 35 U.S.C. § 103(a) as being unpatentable over Krueger et al. (WO 93/22557) in view of Takenaka. Further, on pages 6-7 of the Office Action, the Examiner rejected claims 12 and 14 under 35 U.S.C. § 103(a) as being unpatentable over Solomon in view of Takenaka, and further in view of Paczusi (US 6,484,847). For the reasons discussed below, it is respectfully submitted that the present claims are clearly patentable over the prior art of record.

Amended independent claim 9 recites a compressor comprising a hermetic container storing oil therein, and an electric motor contained in the hermetic container, with the electric motor including a stator and a rotor. The compressor of claim 9 also includes a compressor unit linked to be driven by the electric motor, with the compressor unit including a shaft that extends in a vertical direction and is to be rotated by the electric motor. Further, the compressor of claim 9 includes an oil pump which is formed at a lower end of the shaft and immersed in the oil. In addition, claim 9 recites that the oil pump includes a helical groove provided in an outer periphery of the shaft, a cup-shaped sleeve rotatably mounted on the lower end of the shaft so as to cover the helical groove with a predetermined clearance defined between the shaft and the sleeve, and a rotation-suppressing element for suppressing rotation of the sleeve, with the predetermined clearance being 100 μm to 500 μm . Further, claim 9 recites that *the rotation-suppressing element comprises a permanent magnet secured to one of the sleeve and the hermetic container, and a member secured to the other of the sleeve and the hermetic container so that a magnetic force of the permanent magnet acts on the member so as to suppress a rotation of said sleeve.*

Solomon discloses a compressor which, as shown in Fig. 2, includes an electric motor 13 with a shaft 22 having a lower bearing 21 around an end of the shaft 22. However, as acknowledged by the Examiner on page 3 of the Office Action, Solomon does not disclose a predetermined clearance defined between the shaft and the sleeve, *with the predetermined clearance being 100 μm to 500 μm* , as required by independent claim 9. In this regard, the Examiner asserts that the bearing 21 corresponds to the cup-shaped sleeve of claim 9, and that the frame 14 corresponds to the rotation-suppressing element of claim 9 because the frame 14 prevents the bearing 21 from rotating with the shaft. However, it is noted that the frame 14 does not correspond to a rotation-suppressing element *comprising a permanent magnet secured to one of the sleeve and the hermetic container, and a member secured to the other of the sleeve and the hermetic container so that a magnetic force of the permanent magnet acts on the member so as to suppress a rotation of the sleeve*, as required by claim 9.

Takenaka discloses a compressor which, as shown in Fig. 1, includes a piston 11 arranged in a cylinder bore 2a, with the piston 11 including grooves on the outer surface of the piston 11, as shown in Fig. 12. In this regard, the Examiner cites column 1, lines 45-54 of Takenaka as disclosing that the clearance between the piston 11 and the sleeve 2a has a direct effect on the flow of oil, and therefore concludes that it would have been obvious to one of ordinary skill in the art to modify the clearance between the shaft 22 and the bearing 21 of Solomon in order to control the flow of oil in the compressor.

However, as acknowledged by the Examiner on page 6 of the Office Action, none of the Solomon and Takenaka references discloses an oil pump including a rotation-suppressing element *comprising a permanent magnet secured to one of the sleeve and the hermetic container, and a member secured to the other of the sleeve and the hermetic container so that a magnetic force of the permanent magnet acts on the member so as to suppress a rotation of the sleeve*, as required by claim 9.

Paczuski discloses a lubricant pump which includes a magnetic trap. In particular, Paczuski discloses that a magnetic disk 84 is arranged within the pump housing 104, and that the magnetic properties of the disk 84 attract ferrous particles suspended in the oil so as to improve compressor performance. In this regard, on page 6 of the Office Action, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to modify the bearing 21 of

Solomon (as modified by Takenaka) to include a magnetic trap as taught by Paczuski in order to prevent magnetic particles from entering the oil pump.

However, Paczuski does not disclose an oil pump including a *rotation-suppressing element comprising a permanent magnet secured to one of the sleeve and the hermetic container, and a member secured to the other of the sleeve and the hermetic container so that a magnetic force of the permanent magnet acts on the member so as to suppress a rotation of said sleeve*, as required by independent claim 9. Rather, Paczuski only discloses a magnetic disk which attracts ferrous particles suspended in the oil, and does not disclose or suggest a rotation-suppressing element comprising a permanent magnet secured to one of the sleeve and the hermetic container, and a member secured to the other of the sleeve and the hermetic container so that a magnetic force of the permanent magnet acts on the member so as to suppress a rotation of said sleeve, as required by independent claim 9.

Further, as indicated above, the Examiner asserts that the bearing 21 of Solomon does not rotate due to being connected to the frame 14. Therefore, in a combination in which the compressor of Solomon is modified to include the magnetic disk 84 of Paczuski, as suggested by the Examiner, the magnetic disk 84 would not suppress a rotation of the bearing 21 because the bearing 21 is fixed, and therefore the combination of the Solomon, Takenaka and Paczuski references does not disclose or suggest a rotation-suppressing element comprising a permanent magnet secured to one of the sleeve and the hermetic container, and a member secured to the other of the sleeve and the hermetic container so that a magnetic force of the permanent magnet acts on the member so as to suppress a rotation of said sleeve, as required by independent claim 9.

Therefore, for the reasons presented above, it is believed apparent that the present invention as recited in independent claim 9 is not disclosed or suggested by the Solomon reference, the Takenaka reference and the Paczuski reference taken either individually or in combination. Accordingly, a person having ordinary skill in the art would clearly not have modified the Solomon reference in view of the Takenaka reference and the Paczuski reference in such a manner as to result in or otherwise render obvious the present invention of independent claim 9.

Krueger discloses an oil pump for a compressor which, as shown in Fig. 4a, includes a rotor 20 and a sleeve 30 surrounding the rotor 20. However, as acknowledged by the Examiner on page 5 of the Office Action, Krueger does not disclose a predetermined clearance defined between the shaft and the sleeve, *with the predetermined clearance being 100 μm to 500 μm* , as required by independent claim 9.

In this regard, the Examiner indicates that Krueger discloses a predetermined clearance between the rotor 20 and the sleeve 30 and, as indicated above, cites column 1, lines 45-54 of Takenaka as disclosing that the clearance between the piston 11 and the sleeve 2a has a direct effect on the flow of oil. Therefore, the Examiner concludes that it would have been obvious to one of ordinary skill in the art to modify the clearance between the rotor 20 and the sleeve 30 of Krueger in order to control the flow of oil in the compressor.

However, none of the Krueger and Takenaka references discloses an oil pump including a rotation-suppressing element *comprising a permanent magnet secured to one of the sleeve and the hermetic container, and a member secured to the other of the sleeve and the hermetic container so that a magnetic force of the permanent magnet acts on the member so as to suppress a rotation of the sleeve*, as required by independent claim 9.

Therefore, as none of the Krueger and Takenaka references discloses an oil pump including a rotation-suppressing element comprising a permanent magnet secured to one of the sleeve and the hermetic container, and a member secured to the other of the sleeve and the hermetic container so that a magnetic force of the permanent magnet acts on the member so as to suppress a rotation of the sleeve, as required by independent claim 9, it is respectfully submitted that the combination of the Krueger and Takenaka references does not disclose or suggest an oil pump including a rotation-suppressing element comprising a permanent magnet secured to one of the sleeve and the hermetic container, and a member secured to the other of the sleeve and the hermetic container so that a magnetic force of the permanent magnet acts on the member so as to suppress a rotation of the sleeve, as required by independent claim 9. Accordingly, a person having ordinary skill in the art would clearly not have modified the Krueger reference in view of the Takenaka reference in such a manner as to result in or otherwise render obvious the present invention of independent claim 9.

Therefore, it is respectfully submitted that independent claim 9, as well as claims 13-16

which depend therefrom, are clearly allowable over the prior art of record.

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice to that effect is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

The Commissioner is authorized to charge any deficiency or to credit any overpayment associated with this communication to Deposit Account No. 23-0975, with the EXCEPTION of deficiencies in fees for multiple dependent claims in new applications.

Respectfully submitted,

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